REMARKS

Applicant wishes to thank the Examiner for the detailed remarks. Claims 2, 4, 19, 24, and 25 have been amended only to directly address the Examiner's §112 rejections. Accordingly, claims 1, 2, 4, and 11-28 are pending.

The specification rejection under 35 U.S.C. §112 first paragraph relates to item 35'. The specification recites:

> A physical agitation system 35 may be provided to speed the movement of the MRF 26 to allow swift transitions from one force output magnitude to another. Alternatively, a stationary magnet 35' may provide agitation. Stationary magnet 35' is non-rotating. Being non-rotating but proximate to chamber 22 that encloses the MRF 26, stationary magnet 35' tends to mix the MRF 26 as the housing 22 rotates relative thereto.
> *¶ [00026]*

As such, it is understood that the MRF 26 is agitated by the electromagnetic field of the stationary magnet 35' or the MRF 26 is physically agitated by the physical agitation system 35 within the chamber 22. This mixing will occur whenever the electromagnets 32 are magnetically shifting their electromagnetic forces because the stationary magnet 35' is preferably a permanent magnet. The physical agitation system 35 directly contacts the MRF 26 and operates as a physical baffle within the chamber 22. Even though such "agitators" cannot overcome the electromagnets selectively operable electromagnetic forces, these agitators have some effect on moving the MRF 26 within the chamber 22 when the electromagnets are shifting or are not being operated so as to increase MRF 26 distribution as described in ¶ 0026 above. Applicant respectfully submits that the claims and specification are in proper condition according to §112.

The Examiner suggests that portions of the amended specification include new matter under 35 USC 132(a). Applicant respectfully disagrees. ¶ [00027] recites material related to the stationary system which was previously disclosed in ¶ [00030]. ¶ [00028] recites material previously disclosed in ¶¶ [00028, 00030 and 00023]. Notably, the sentence immediately before the material objected to by the Examiner in ¶ [00028] recites: "While the speed sensor 46 may be a dedicated unit for sensing rotor speed, the same information may be obtained from a transmission driven alternator or generator 60 (Figure 4), which turns at a predefined speed relative to the rotor speed." The added material is merely an elaboration on this disclosure. Applicant respectfully requests reconsideration of this new matter objection.

Claims 18, 19, 24, 25, 26 and 28 were rejected under 35 U.S.C. §112 first paragraph. Applicant respectfully submits that the claims as amended are in proper condition according to §112. Applicant requests reconsideration of the new matter rejections to claims 18 and 28 based on the above discussion. Claim 19 has been amended to remove the word "phrase" to exactly correspond to language in the specification. Claim 25 has been amended only to match the exact phraseology in the specification at ¶ [00029]. Claim 26 is believed proper and supported by the disclosure at ¶ [00029].

Claims 1, 2, 4, 19 and 21-23 were rejected under 35 U.S.C. §112 second paragraph. Applicant respectfully submits that the claims as amended are in proper condition according to §112. The Examiner asserts that the term "selectively" renders the claim indefinite. Applicant respectfully disagrees. Although the term "substantially" may be a broad relative term, that alone doe not render the claim indefinite. *See MPEP 2173.05(b)(D).*

Claims 1, 2, 4 and 11-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Case* in view of *Hooper*. Applicant respectfully traverses these rejections as there is absolutely no teaching, suggestion, or motivation to modify *Case* in view of *Hooper* as proposed. *Case* discloses an imbalance compensator for rotating shafts – particularly for mechanized tool shafts. *[See Case paragraph 0008]* The Examiner admits that the *Case* housing rotates with the shaft 20 and does not rotate independently thereto. The Examiner then suggests that it would be obvious to modify *Case* so that the housing could rotate independently of the rotating system as taught by *Hooper* in order to not only suppress the vibration from the rotating system but also the vibration from external sources. However, a goal of *Case* is shaft imbalance compensation for rotating machines. *Case* makes no mention of aircraft whatsoever which receive vibration from external source in multiple axes of freedom. Such external vibrations are not relevant to machine tools – or any non-aircraft system - which are mounted in a fixed position. That is, only the shaft may be out of balance and that is what *Case* attempts to compensate for – not vibration from external sources. In furtherance to this, *Case* recites at ¶ 0015: "Yet further, a need exists for an imbalance compensator that adds comparatively little weight and rotational inertia to the rotating machine." That is, a specified goal of *Case* is to compensate for an imbalance *without* increasing rotational inertia. However, the Examiner's proposed combination to modify *Case* so that the housing could rotate independently of the rotating system, WOULD implicitly increase the rotational inertia thereof. It is improper to modify the base reference in such a way that it ruins the goal or function of the base reference. The Examiner's proposed modification would do so. The claims are properly allowable.

Claims 21-28 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Hooper* in view of *Case*. Applicant respectfully traverses these rejections as there is absolutely no teaching, suggestion, or motivation to modify *Hooper* in view of *Case* as proposed. *Hooper* discloses a mechanical vibration absorption system for a rotary wing aircraft or a propeller like device having a rotating hub and a plurality of radial members. [See *Hooper*, Col. 8, lines 49-55]. As discussed above, vibration absorption for an aircraft is completely different than that of a fixedly mounted system such as the machines discussed by *Case*. *Hooper* makes no mention of MRF, or the electromagnetic shifting of a MRF. That is, the vibration absorption system of *Hooper* is completely based on a mechanical gear arrangement. There is therefore no motivation to incorporate a MRF fluid system of *Case* into a mechanical gear train system of *Hooper*. The only motivation to make the combination as proposed is by following the knowledge disclosed within the present invention. This is impermissible usage of hindsight in an attempt to recreate Applicant's device. Accordingly, the claims are properly allowable.

Even if the combination of *Case* in view of *Hooper* or *Hooper* in view of *Case* were properly made, there are differences between the claimed invention and the teachings of the cited references so that the combination does not meet the limitations of Applicant's claims. The *Hooper* vibration absorption system does not rotate independently of the rotor system. The *Hooper* system rotates only at a constant ratio with respect to the rotational speed of the rotor hub. [See *Hooper*, Col. 8, lines 64-66 and lines 70-73.] The Examiner admits that the *Case* housing rotates with the shaft 20 and does not rotate independently thereto. In other words, *Hooper* rotates at a constant speed relative to the rotor system through a gear system while *Case* rotates at a constant speed through connection with the shaft. *Hooper* rotates at a constant speed ratio relative to the rotor system whereas *Case* rotates at a constant speed that is the same speed of the shaft. Thus, even if properly combinable – which they are not -- *Case* in view of *Hooper* or *Hooper* in view of *Case* cannot respond to varying flight regimes as disclosed and claimed by Applicant by providing a housing which is ***rotatable independent*** of a rotating system. *[Also see Applicants specification ¶ 0035]* In either case, the combined references failure to disclose or suggest Applicant's claimed invention.

Should any fees be required, the Commissioner is authorized to charge Deposit Account No. 50-1482, in the name of Carlson, Gaskey & Olds P.C.

Applicant respectfully submits that this case is in condition for allowance. If the Examiner believes that a teleconference will facilitate moving this case forward to being issued, Applicant's representative can be contacted at the number indicated below.

Respectfully Submitted,
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AMENDMENTS TO THE DRAWINGS:

These drawings replace the previously filed drawings. No new matter has been added.

Figure 2 has been amended to include reference numeral 28.

Figures 3a has been amended to correct reference numeral 28 to reference numeral 33.

Figure 4 has been amended to add reference numeral 60s and eliminate reference numeral 50s.The Examiner has suggested that Figure 4 introduces new matter due to boxes 46 and 40. Applicant respectfully disagrees as the boxes represent a control 40 and a sensor 46 which were previously disclosed. The drawings were amended to only relocate the boxes 40 and 46 to more specifically coincide with that previously disclosed in the specification. Nonetheless, Figure 4 has also been amended to address the Examiner's objections to Box 46 and 40 such that the boxes are located in their original schematic position.

Figure 5 has been amended to remove item 35'.